

CLAIMS

1. A protection device for a stator of a turbine comprising a series of annular sectors (12) which can be coupled by means of connection means, each sector (12) comprising a first side surface (13) which has at least one cavity (14) equipped with a bottom (15), characterized in that each bottom (15) of said at least one cavity (14) is convex and in that each sector (12) comprises at least one stiffening rib (16) positioned inside said at least one cavity (14) and having a variable section in a longitudinal direction to modulate the rigidity of each sector (12).  
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2. The protection device (10) according to claim 1, characterized in that said bottom (15) is convex in a circumferential and/or axial direction.  
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3. The protection device (10) according to claim 1 or 2, characterized in that said convex bottom (15) has an apex which in an axial section has an axial curvature radius 70 which, divided by the radius of the rotor, has a value preferably ranging from 0.221 to 0.299.  
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4. The protection device (10) according to claim 3, characterized in that said axial curvature radius (70), divided by the radius of the rotor, has a value equal to 0.260.  
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5. The protection device (10) according to claim 3 or

4, characterized in that said apex in a radial section has a circumferential curvature radius (60) which, divided by the radius of the rotor, has a value preferably ranging from 0.365 to 0.494.

5 6. The protection device (10) according to claim 5, characterized in that said circumferential curvature radius (60), divided by the radius of the rotor, has a value equal to 0.429.

7. The protection device (10) according to any of the  
10 claims from 3 to 6, characterized in that said apex in an axial section has a distance (80) from one end of said at least one cavity (14), said distance (80) divided by an axial length of said at least one cavity (14) has a value ranging from 0.142 to 0.192.

15 8. The protection device (10) according to claim 7, characterized in that said distance (80) divided by an axial length of said at least one cavity (14) has a value equal to 0.167.

9. The protection device (10) according to any of the  
20 claims from 1 to 8, characterized in that with respect to the axis of the turbine (70), said rib (16) along an axial direction is tilted by an angle (50) which ranges from  $3.162^\circ$  to  $4.278^\circ$ .

10. The protection device (10) according to claim 9,  
25 characterized in that said angle (50) is  $3.72^\circ$ .

11. The protection device (10) according to any of the claims from 1 to 10, characterized in that said rib (16) has a maximum axial height (90) which, divided by the axial length of said at least one cavity (14) has a value  
5 ranging from 0.133 to 0.180.

12. The protection device (10) according to claim 11, characterized in that said maximum axial height (90), divided by the axial length of said at least one cavity (14) has a value equal to 0.156.

10 13. The protection device (10) according to any of the claims from 1 to 12, characterized in that each sector (12) comprises a sheet (20) equipped with a series of pass-through holes (21) which is fixed to said at least one cavity (14).

15 14. The protection device (10) according to claim 13, characterized in that said sheet (20) is integral with the corresponding sector (12) of said series of sectors (12).